

Remarks

The Examiner rejects claims 1 through 6 under 35 U.S.C. §103(a) for obviousness over Elahmadi in view of Chin. The applicants appreciate that the Examiner has accepted now that Elahmadi does not show the claim feature of the link aggregation router, nor of the working path and shared protection path both carrying link aggregated traffic during failure-free operation. The Examiner asserts that Chin shows a link aggregation router having at least two ports and a redundant path carrying traffic simultaneously. It is therefore asserted to have been obvious to use the link aggregator of Chin to replace the router in Elahmadi.

In response, Elahmadi should be disregarded as it was not patented before the filing date of the present invention, and is assigned to Nortel Networks, the Assignee of the present application, and so meets the condition of section 103 (c) that "the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

Hence the obviousness rejection falls away. For the sake of completeness, the new reference Chin will be discussed briefly, to explain why it is not relevant on its own or in combination with other references. Chin is concerned with the problem of loops in routes through a network, and the problems caused by spanning tree algorithms used to remove loops. Since such algorithms "essentially block all but one of the redundant links between two looped devices, all of the data frames exchanged between those devices must be carried on the single link or path corresponding to the one port placed in the forwarding mode. No data may be exchanged over the links or paths associated with blocked ports. Thus, despite the existence of multiple communications paths, all but one of the paths or links remain idle. Accordingly, the spanning tree algorithm results in a significant waste of system resources." (col 4 of Chin).

The solution proposed by Chin is a port aggregation protocol, which enables redundant links in the loops to be used for traffic and to provide some local redundancy, while the spanning tree algorithm sees no loop, only a single "virtual port" and thus a single link with no loop. In effect, the port aggregation only achieves the conventional benefit of a point to point link aggregation of automatic tolerance of a fault on one of the aggregated links.

There is no suggestion in Chin of issues relating to optical protection schemes. These would normally be handled at the link level and operate independently of any link aggregation router. Hence there is nothing in Chin which leads towards the unusual step of incorporating a link aggregation router into an optical shared protection scheme as set out in the present claim 1 which specifies a link aggregation router having at least two ports, a first port connected to a working transmission path, and a second port connected to a shared protection path. This means there is no longer a need to pre sort the traffic for the optical link into protected and unprotected traffic, as the router is capable of doing this, since it has two ports connected to a working path and a shared protection path respectively. Hence some of the advantages of link aggregation and of shared protection paths can be achieved more efficiently by using the same router for both schemes. There is no suggestion in Chin of this, and no suggestion of using its router to separate traffic between a shared protection path and a working path. Nor is there any hint of the advantages arising. Hence Chin is not relevant to claim 1.

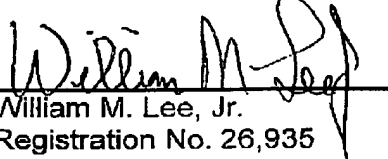
All the other claims have corresponding features or are dependent on such claims, and so these arguments apply to all claims.

Shanklin is additionally cited against claims 7 and 8, but only to show that load balancing can be controlled by software, so this reference does not affect the arguments set out above.

All the points raised have been dealt with. All the claims are submitted to be allowable and reconsideration is requested.

April 28, 2005

Respectfully submitted,



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